

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A film preparation method for preparing an oxygen radical-containing calcium aluminate film, characterized in that it comprises comprising subjecting to thermal spraying a powder of comprising an oxygen radical-containing calcium aluminate to thermal spraying comprising powdered crystalline  $12\text{CaO}\cdot7\text{Al}_2\text{O}_3$  ( $\text{C}_{12}\text{A}_7$ ) having an oxygen radical content of at least  $10^{20}$   $\text{cm}^{-3}$ , where the thermal spraying melts the powder only at the surface of the powder or in the vicinity of the surface of the powder; and

depositing the thermally sprayed powder onto a substrate as a film comprising deposited crystalline  $12\text{CaO}\cdot7\text{Al}_2\text{O}_3$  ( $\text{C}_{12}\text{A}_7$ ) having an oxygen radical content of at least  $10^{20}$   $\text{cm}^{-3}$ .

Claims 2-3 (Canceled)

Claim 4 (Currently Amended): The method according to Claim [[3]] 1, wherein the powdered crystalline  $12\text{CaO}\cdot7\text{Al}_2\text{O}_3$  ( $\text{C}_{12}\text{A}_7$ ) is obtained by a solid phase reaction of a Ca source and an Al source in a mol ratio of Ca:Al being from 0.77:1 to 0.96:1.

Claim 5 (Original): The method according to Claim 4, wherein the solid phase reaction is carried out in a dry oxidizing atmosphere having an oxygen partial pressure of at least  $10^4$  Pa, a steam partial pressure of at most  $10^2$  Pa and a temperature of from 1,200 to 1,415°C, or after the solid phase reaction, the system is maintained in such a dry oxidizing atmosphere.

Claim 6 (Currently Amended): The method according to any one of Claims 1 [[to]] ,  
4 and 5, wherein the thermal spraying is carried out by plasma spraying.

Claims 7-10 (Canceled)

Claim 11 (New): The method according to Claim 1, wherein the powder subjected to thermal spraying consists of the oxygen radical-containing calcium aluminate.

Claim 12 (New): The method according to Claim 1, wherein the oxygen radical-containing calcium aluminate further comprises at least one selected from the group consisting of  $3\text{CaO}\bullet\text{Al}_2\text{O}_3(\text{C}_3\text{A})$ ,  $\text{CaO}\bullet\text{Al}_2\text{O}_3(\text{CA})$ ,  $\text{CaO}\bullet2\text{Al}_2\text{O}_3(\text{CA}_2)$  and  $\text{CaO}\bullet6\text{Al}_2\text{O}_3(\text{CA}_6)$ .

Claim 13 (New): The method according to Claim 11, wherein the oxygen radical-containing calcium aluminate further comprises at least one selected from the group consisting of  $3\text{CaO}\bullet\text{Al}_2\text{O}_3(\text{C}_3\text{A})$ ,  $\text{CaO}\bullet\text{Al}_2\text{O}_3(\text{CA})$ ,  $\text{CaO}\bullet2\text{Al}_2\text{O}_3(\text{CA}_2)$  and  $\text{CaO}\bullet6\text{Al}_2\text{O}_3(\text{CA}_6)$ .